6560-50-P

#### ENVIRONMENTAL PROTECTION AGENCY

#### 40 CFR Parts 52 and 81

[EPA-R05-OAR-2016-0513; FRL-9963-73-Region 5]

Air Plan Approval; Indiana; Redesignation of the Indiana Portion of the Cincinnati-Hamilton, OH-IN-KY Area to Attainment of the 1997 Annual Standard for Fine Particulate Matter

AGENCY: Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to redesignate the Indiana portion of the Cincinnati-Hamilton, OH-IN-KY, nonattainment area (hereafter, "the Cincinnati-Hamilton area") to attainment for the 1997 fine particulate matter (PM2.5) annual national ambient air quality standard (NAAQS or standard). The Indiana portion of the Cincinnati-Hamilton area includes Lawrenceburg Township within Dearborn County. EPA is taking this action because it has determined that the Cincinnati-Hamilton area is attaining the annual PM2.5 standard. EPA is also proposing several additional related actions. First, EPA is proposing to approve the state's plan for maintaining the 1997 annual PM2.5 NAAQS through 2027. In addition, EPA is proposing to approve Indiana's updated emission inventory, which includes emission inventories for volatile

organic compounds (VOCs) and ammonia. Indiana's maintenance plan submission also includes a budget for the mobile source contribution of  $PM_{2.5}$  and nitrogen oxides (NO<sub>X</sub>) to the Cincinnati-Hamilton  $PM_{2.5}$  area for transportation conformity purposes, which EPA is proposing to approve and update. EPA is proposing to take these actions in accordance with the Clean Air Act (CAA) and EPA's State implementation plan (SIP) rules regarding the 1997  $PM_{2.5}$  NAAQS.

DATES: Comments must be received on or before [insert date 30 days after date of publication in the Federal Register].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R05-OAR-2016-0513 at <a href="http://www.regulations.gov">http://www.regulations.gov</a>, or via email to <a href="mailto-aburano.douglas@epa.gov">aburano.douglas@epa.gov</a>. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. For either manner of submission, EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official

comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the "For Further Information Contact" section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <a href="http://www2.epa.gov/dockets/commenting-epa-dockets">http://www2.epa.gov/dockets/commenting-epa-dockets</a>.
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**SUPPLEMENTARY INFORMATION:** This supplementary information section is arranged as follows:

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## I. What is the Background for These Actions?

The first air quality standards for  $PM_{2.5}$  were promulgated on July 18, 1997, at 62 FR 38652. Fine particulate pollution can be emitted directly from a source (primary  $PM_{2.5}$ ) or formed secondarily through chemical reactions in the atmosphere involving precursor pollutants emitted from a variety of sources (secondary  $PM_{2.5}$ ). EPA promulgated an annual standard at a level of 15 micrograms per cubic meter ( $\mu g/m^3$ ) of ambient air, based on a three-year average of the annual mean  $PM_{2.5}$  concentrations at

each monitoring site. See 40 CFR 50.13.

On January 5, 2005, at 70 FR 944, EPA published air quality area designations for the 1997 annual  $PM_{2.5}$  standard based on air quality data for calendar years 2001-2003. In that rulemaking, EPA designated the Cincinnati-Hamilton area, which includes Lawrenceburg Township, Dearborn County, Indiana, as nonattainment for the 1997 annual  $PM_{2.5}$  standard.

On December 23, 2011, EPA approved the redesignation of the Ohio and Indiana portions of the Cincinnati-Hamilton area to attainment of the annual PM<sub>2.5</sub> standard (76 FR 80253). On July 14, 2015, the United States Court of Appeals for the Sixth Circuit (Sixth Circuit) issued an opinion in Sierra Club v. EPA, 793 F.3d 656 (6<sup>th</sup> Cir. 2015), vacating EPA's redesignation of the Indiana and Ohio portions of the Cincinnati-Hamilton area to attainment for the 1997 PM<sub>2.5</sub> NAAQS. The basis for the Court's decision is that EPA had not approved reasonably available control measures (RACM) or reasonably available control technology (RACT) for the area into the SIP, as required by part D, subpart 1, of the CAA. <sup>1</sup>

 $<sup>^1</sup>$  The Court issued its initial decision in the case on March 18, 2015, and subsequently issued an amended opinion on July 14 after appeals for rehearing en banc and panel rehearing had been filed. The amended opinion revised some of the legal aspects of the Court's analysis of the relevant statutory provisions (section 107(d)(3)(E)(ii) and section 172(c)(1)), but the overall holding of the opinion was unaltered. On March 28, 2016, the Supreme Court

Additionally, in this proposed redesignation, EPA takes into account two decisions of the United States Court of Appeals for the District of Columbia Circuit. On August 21, 2012, in EME Homer City Generation, L.P. v. EPA, 696 F.3d 7 (D.C. Cir. 2012), the D.C. Circuit vacated and remanded the Cross State Air Pollution Rule (CSAPR) and ordered EPA to continue administering the Clean Air Interstate Rule (CAIR) "pending . . . development of a valid replacement." EME Homer City at 38. The D.C. Circuit denied all petitions for rehearing in the case on January 24, 2013.

In the second decision, on January 4, 2013, the D.C. Circuit issued its decision with regard to the challenge by the Natural Resources Defense Council (NRDC) to the EPA's 2007 PM<sub>2.5</sub> Implementation Rule. In NRDC v. EPA, the court held that EPA erred in implementing the 1997 PM2.5 NAAQS pursuant only to the general implementation requirements of part D of the CAA, subpart 1, rather than also to the implementation requirements specific to particulate matter (PM<sub>10</sub>) in subpart 4, part D of title I of the CAA ("subpart 4"). The court reasoned that the plain meaning of the CAA requires implementation of the 1997 PM<sub>2.5</sub> NAAQS under subpart 4 because PM<sub>2.5</sub> particles fall within

denied a petition for certiorari from Ohio requesting review of the Sixth Circuit's decision.

the statutory definition of  $PM_{10}$  and thus implementation of the  $PM_{2.5}$  NAAQS is subject to the same statutory requirements as the  $PM_{10}$  NAAQS. The court remanded the rule and instructed the EPA "to repromulgate these rules pursuant to Subpart 4 consistent with this opinion." NRDC v. EPA, 706 F.3d 428 (D.C. Cir. 2013).

### II. What are the Criteria for Redesignation to Attainment?

The CAA sets forth the requirements for redesignating a nonattainment area to attainment. Specifically, section 107(d)(3)(E) of the CAA allows for redesignation provided that: (1) the Administrator determines that the area has attained the applicable NAAQS based on current air quality data; (2) the Administrator has fully approved an applicable SIP for the area under section 110(k) of the CAA; (3) the Administrator determines that the improvement in air quality is due to permanent and enforceable emission reductions resulting from implementation of the applicable SIP, Federal air pollution control regulations, or other permanent and enforceable emission reductions; (4) the Administrator has fully approved a maintenance plan for the area meeting the requirements of section 175A of the CAA; and (5) the state containing the area has met all requirements applicable to the area for purposes of redesignation under section 110 and part D of the CAA.

# III. What is EPA's Analysis of the State's Request?

EPA is proposing to redesignate the Cincinnati-Hamilton area to attainment of the 1997 annual  $PM_{2.5}$  NAAQS, and is proposing to approve updates to Indiana's maintenance plan and emissions inventory for the area. The rationale for these proposed actions follow.

#### 1. Attainment

In accordance with section 179(c) of the CAA, 42 U.S.C. 7509(c) and 40 CFR 51.1004(c), EPA is proposing to determine that the Cincinnati-Hamilton area has attained the 1997 annual  $PM_{2.5}$  NAAQS. This proposed determination is based upon complete, quality-assured, and certified ambient air monitoring data for the 2013-2015 monitoring period that shows this area has monitored attainment of the 1997  $PM_{2.5}$  NAAQS.

Under EPA's regulations at 40 CFR 50.7, the annual primary and secondary  $PM_{2.5}$  standards are met when the annual arithmetic mean concentration, as determined in accordance with 40 CFR part 50, appendix N, is less than or equal to 15.0  $\mu$ g/m³ at all relevant monitoring sites in the area.

EPA has reviewed the ambient air quality monitoring data in the Cincinnati-Hamilton area, consistent with the provisions of 40 CFR part 50, appendix T. EPA's review focused on data

recorded in the EPA Air Quality System (AQS) database for the Cincinnati-Hamilton area for  $PM_{2.5}$  nonattainment area from 2013-2015.

The Cincinnati-Hamilton area has nine monitors located in Butler (OH), Hamilton (OH), and Campbell (KY) Counties that reported design values from 2013-2015 for  $PM_{2.5}$  that ranged from 9.5 to 11.2  $\mu g/m^3$  for the 1997 annual standard. The data are summarized shown in Table 1 below.

All monitors in the Cincinnati-Hamilton area recorded complete data in accordance with criteria set forth by EPA in 40 CFR part 50 appendix N, where a complete year of air quality data comprises four calendar quarters, with each quarter containing data from at least 75% capture of the scheduled sampling days. Data available are considered to be sufficient for comparison to the NAAQS if three consecutive complete years of data exist. State certified data for 2013-2015 show the area continues to attain the standard.

Table 1. Annual  $PM_{2.5}$  Design Values for the Cincinnati-Hamilton Area for 2013-2015

		Annual Design Values (µg/m3)					
		Year			Average		
Site	County	2013	2014	2015	2013-2015		
39-017-0003		11.1	11.3	10.3	10.9		
39-017-0016	Butler, OH	10.7	10.7	9.5	10.3		
39-017-0019		11	11.2	10.2	10.8		
39-061-0006	Hamilton, OH	10.1	10.3	9.3	9.9		

39-061-0014		11.6	11.3	10.7	11.2
39-061-0040		10.6	10.4	9.2	10.1
39-061-0042		11.5	11.2	10.1	11
39-061-0010		10.5	10.4	9.2	10
21-037-3002	Campbell, KY	9.6	9.7	9.4*	9.5

<sup>\*</sup> less than 75% capture in one quarter at the primary monitor, but substitution using a secondary monitor was completed resulting in an AQS 'valid' design value. See 40 CFR part 50, appendix N.

EPA has found that the Cincinnati-Hamilton area has

attained the 1997 annual  $PM_{2.5}$  NAAQS by the attainment date.

2. The Area Has Met All Applicable Requirements Under Section

110 and Part D and Has a Fully Approved SIP Under Section 110(k)

(Section 107(d)(3)(E)(ii) and (v))

EPA has determined that Indiana has met all currently applicable SIP requirements for purposes of redesignation for the Cincinnati-Hamilton area under section 110 of the CAA (general SIP requirements). EPA is also proposing to find that the Indiana submittal meets all SIP requirements currently applicable for purposes of redesignation under part D of title I of the CAA, in accordance with section 107(d)(3)(E)(v). In addition, we are proposing to find that all applicable requirements of the Indiana SIP for purposes of redesignation have been approved, in accordance with section 107(d)(3)(E)(ii). As discussed below, EPA previously approved Indiana's 2005 emissions inventory as meeting the section 172(c)(3)

comprehensive emissions inventory requirement.

In making these proposed determinations, we have ascertained which SIP requirements are applicable for purposes of redesignation, and concluded that the Indiana SIP includes measures meeting those requirements and that they are fully approved under section 110(k) of the CAA.

- a. Indiana Has Met All Applicable Requirements for

  Purposes of Redesignation of the Cincinnati-Hamilton

  Area under Section 110 and Part D of the CAA
- i. Section 110 General SIP Requirements

Section 110(a) of title I of the CAA contains the general requirements for a SIP. Section 110(a)(2) provides that the implementation plan submitted by a state must have been adopted by the state after reasonable public notice and hearing, and, among other things, must: include enforceable emission limitations and other control measures, means or techniques necessary to meet the requirements of the CAA; provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to monitor ambient air quality; provide for implementation of a source permit program to regulate the modification and construction of any stationary source within the areas covered by the plan; include provisions

for the implementation of part C, Prevention of Significant

Deterioration (PSD) and part D, New Source Review (NSR) permit

programs; include criteria for stationary source emission

control measures, monitoring, and reporting; include provisions

for air quality modeling; and provide for public and local

agency participation in planning and emission control rule

development.

Section 110(a)(2)(D) of the CAA requires that SIPs contain measures to prevent sources in a state from significantly contributing to air quality problems in another state. EPA believes that the requirements linked with a particular nonattainment area's designation are the relevant measures to evaluate in reviewing a redesignation request. The transport SIP submittal requirements, where applicable, continue to apply to a state regardless of the designation of any one particular area in the state. Thus, we believe that these requirements should not be construed to be applicable requirements for purposes of redesignation.

Further, we believe that the other section 110 elements described above that are not connected with nonattainment plan submissions and not linked with an area's attainment status are also not applicable requirements for purposes of redesignation.

A state remains subject to these requirements after an area is redesignated to attainment. We conclude that only the section 110 and part D requirements that are linked with a particular area's designation are the relevant measures which we may consider in evaluating a redesignation request. See Reading, Pennsylvania, proposed and final rulemakings (61 FR 53174-53176, October 10, 1996) and (62 FR 24826, May 7, 1997); Cleveland-Akron-Lorain, Ohio, final rulemaking (61 FR 20458, May 7, 1996); and Tampa, Florida, final rulemaking (60 FR 62748, December 7, 1995). See also the discussion on this issue in the Cincinnati, Ohio 1-hour ozone redesignation (65 FR 37890, June 19, 2000), and in the Pittsburgh, Pennsylvania 1-hour ozone redesignation (66 FR 50399, October 19, 2001).

We previously reviewed the Indiana SIP and have concluded that it meets the general SIP requirements under section 110 of the CAA to the extent they are applicable for purposes of redesignation. EPA has previously approved provisions of Indiana's SIP addressing section 110 requirements (including provisions addressing particulate matter), at 40 CFR 52.776.

On December 5, 2007, September 9, 2008, March 23, 2011, and April 7, 2011 Indiana made submittals addressing "infrastructure SIP" elements required under CAA section 110(a)(2). EPA

approved elements of Indiana's submittals on July 13, 2011, at 76 FR 41075.

The requirements of section 110(a)(2), however, are statewide requirements that are not linked to the  $PM_{2.5}$  nonattainment status of the Cincinnati-Hamilton area. Therefore, EPA believes that these SIP elements are not applicable requirements for purposes of review of the state's  $PM_{2.5}$  redesignation request.

## ii. Part D Requirements

EPA has determined that, upon approval of the base year emissions inventories discussed in section III.6 of this rulemaking, the Indiana SIP will meet the SIP requirements for the Cincinnati-Hamilton area applicable for purposes of redesignation under part D of the CAA. Subpart 1 of part D, found in sections 172-176 of the CAA, sets forth the basic nonattainment requirements applicable to all nonattainment areas. Subpart 4 of part D, found in section 189 of the CAA, sets forth nonattainment requirements applicable for particulate matter nonattainment areas.

### Subpart 1

a) Section 172 Requirements

For purposes of evaluating this redesignation request, the

applicable section 172 SIP requirements for the Cincinnati-Hamilton area are contained in sections 172(c)(1)-(9). A thorough discussion of the requirements contained in section 172 can be found in the General Preamble for Implementation of Title I (57 FR 13498, April 16, 1992).

Under section 172, states with nonattainment areas must submit plans providing for timely attainment and meeting a variety of other requirements. However, pursuant to 40 CFR 51.1004(c), EPA's determination that the area has attained the 1997 annual PM<sub>2.5</sub> standard suspends the requirement to submit certain planning SIPs related to attainment, including: attainment demonstration requirements, the RFP and attainment demonstration requirements of sections 172(c)(2) and (6) and 182(b)(1) of the CAA, and the requirement for contingency measures of section 172(c)(9) of the CAA.

As a result, the only remaining requirements under section 172 to be considered are the emissions inventory requirement under section 172(c)(3), and the RACM/RACT requirement of section 172(c)(1) per the Sixth Circuit decision.

### i) Section 172(c)(1)

Section 172(c)(1) requires the plans for all nonattainment areas to provide for the implementation of all RACM as

expeditiously as practicable and to provide for attainment of the primary NAAQS. EPA has long interpreted that subpart 1 nonattainment planning requirements, including RACM, are not "applicable for purposes of section 107(d)(3)(E)(ii) and (v) when an area is attaining the NAAQS, and, therefore, need not be approved into the SIP before EPA can redesignate the area. See 76 FR 80258."

EPA previously redesignated the Cincinnati-Hamilton area to attainment for the 1997 annual  $PM_{2.5}$  standard, predicated in part on a finding that the RACM/RACT requirement (interpreted as reflecting those reasonable measures needed to attain the standard) was not an applicable requirement for purposes of redesignation for areas already meeting the standard.

As previously discussed, on July 14, 2015, the United States Court of Appeals for the Sixth Circuit issued an opinion in Sierra Club v. EPA, vacating EPA's redesignation of the Indiana and Ohio portions of the Cincinnati-Hamilton area to attainment for the 1997 PM2.5 NAAQS on the basis that EPA had not approved subpart 1 RACM for the area into the SIP. The Sixth Circuit vacated the redesignation of the Ohio and Indiana portion of the area based on its view that RACM/RACT must be considered an applicable requirement for designation purposes.

Consistent with that ruling, this requirement was satisfied with EPA approval of Indiana's RACM/RACT analysis on August 25, 2016 (81 FR 58402).

## ii) Other Section 172 requirements

No SIP provisions applicable for redesignation of the Cincinnati-Hamilton area are currently disapproved, conditionally approved, or partially approved. Indiana currently has a fully approved SIP for all requirements, as applicable for purposes of redesignation under the Sixth Circuit's Sierra Club decision.

The reasonable further progress (RFP) requirement under section 172(c)(2) is defined as progress that must be made toward attainment. This requirement is not relevant for purposes of the Cincinnati-Hamilton redesignation because the area has monitored attainment of the 1997 annual PM<sub>2.5</sub> NAAQS. (General Preamble, 57 FR 13564). See also 40 CFR 51.918. The requirement to submit the section 172(c)(9) contingency measures is similarly not applicable for purposes of redesignation. Id.

Section 172(c)(3) requires submission and approval of a comprehensive, accurate and current inventory of actual emissions. Indiana submitted a 2005 base year emissions inventory in the required attainment plan, and also updated the

emissions inventory with VOCs and ammonia emissions from 2007. EPA previously approved the 2005 base year emissions inventory on October 19, 2011 (76 FR 64825), and is proposing to approve the emissions inventory for VOCs and ammonia.

Section 172(c)(4) requires the identification and quantification of allowable emissions for major new and modified stationary sources in an area, and section 172(c)(5) requires source permits for the construction and operation of new and modified major stationary sources anywhere in the nonattainment area. EPA approved Indiana's current NSR program on October 7, 1994 (59 FR 51108), but has not approved updates since that time. Nonetheless, since PSD requirements will apply after redesignation, the area need not have a fully-approved NSR program for purposes of redesignation, provided that the area demonstrates maintenance of the NAAQS without part D NSR. detailed rationale for this view is described in a memorandum from Mary Nichols, Assistant Administrator for Air and Radiation, dated October 14, 1994, entitled, "Part D New Source Review Requirements for Areas Requesting Redesignation to Attainment." Indiana has demonstrated that the Cincinnati-Hamilton area will be able to maintain the standard without part D NSR in effect; therefore, the state need not have a fully approved part D NSR program prior to approval of the redesignation request. The state's PSD program will become effective in the Cincinnati-Hamilton area upon redesignation to attainment. See rulemakings for Detroit, Michigan (60 FR 12467-12468, March 7, 1995); Cleveland-Akron-Lorain, Ohio (61 FR 20458, 20469-20470, May 7, 1996); Louisville, Kentucky (66 FR 53665, October 23, 2001); and Grand Rapids, Michigan (61 FR 31834-31837, June 21, 1996).

Section 172(c)(6) requires the SIP to contain control measures necessary to provide for attainment of the standard.

Because attainment has been reached, no additional measures are needed to provide for attainment.

Section 172(c)(7) requires the SIP to meet the applicable provisions of section 110(a)(2). As noted above, we have found that Indiana's SIP meets the applicable requirements of section 110(a)(2) for purposes of redesignation.

# b) Section 176 Conformity Requirements

Section 176(c) of the CAA requires states to establish criteria and procedures to ensure that Federally-supported or funded activities, including highway projects, conform to the air quality planning goals in the applicable SIPs. The requirement to determine conformity applies to transportation

plans, programs and projects developed, funded or approved under Title 23 of the U.S. Code and the Federal Transit Act (transportation conformity) as well as to all other Federally-supported or funded projects (general conformity). State transportation conformity regulations must be consistent with Federal conformity regulations relating to consultation, enforcement, and enforceability, which EPA promulgated pursuant to CAA requirements.

EPA approved Indiana's transportation conformity SIPs on March 2, 2015 (80 FR 11134). In April 2010, EPA promulgated changes to 40 CFR 51.851, eliminating the requirement for states to maintain a general conformity SIP. EPA confirms that Indiana has met the applicable conformity requirements under section 176.

#### Subpart 4

On January 4, 2013, in NRDC v. EPA, the D.C. Circuit remanded to EPA the "Final Clean Air Fine Particle Implementation Rule" (72 FR 20586, April 25, 2007) and the "Implementation of the New Source Review (NSR) Program for Particulate Matter Less than 2.5 Micrometers (PM<sub>2.5</sub>)" final rule (73 FR 28321, May 16, 2008) (collectively, "1997 PM<sub>2.5</sub>
Implementation Rule"). 706 F.3d 428 (D.C. Cir. 2013). The Court

found that EPA erred in implementing the 1997 PM<sub>2.5</sub> NAAQS pursuant to the general implementation provisions of subpart 1 of part D of title I of the CAA, rather than the particulatematter-specific provisions of subpart 4 of part D of title I.

EPA has longstanding general guidance that interprets the 1990 amendments to the CAA, making recommendations to states for meeting the statutory requirements for SIPs for nonattainment areas. See, "State Implementation Plans; General Preamble for the Implementation of Title I of the Clear Air Act Amendments of 1990," 57 FR 13498 (April 16, 1992) (the "General Preamble"). In the General Preamble, EPA discussed the relationship of subpart 1 and subpart 4 SIP requirements, and pointed out that subpart 1 requirements were, to an extent, "subsumed by, or integrally related to, the more specific PM-10 requirements." 57 FR 13538 (April 16, 1992). The subpart 1 requirements include, among other things, provisions for attainment demonstrations, RACM, RFP, emissions inventories, and contingency measures.

For the purposes of this redesignation, in order to identify any additional requirements which would apply under subpart 4, we are considering the Cincinnati-Hamilton area to be a "moderate"  $PM_{2.5}$  nonattainment area. Under section 188 of the CAA, all areas designated nonattainment areas under subpart 4

would initially be classified by operation of law as "moderate" nonattainment areas, and would remain moderate nonattainment areas unless and until EPA reclassifies the area as a "serious" nonattainment area. Accordingly, EPA believes that it is appropriate to limit the evaluation of the potential impact of subpart 4 requirements to those that would be applicable to moderate nonattainment areas.

Section 189(a) and (c) of subpart 4 applies to moderate nonattainment areas and includes the following: (1) an approved permit program for construction of new and modified major stationary sources (section 189(a)(1)(A)); (2) an attainment demonstration (section 189(a)(1)(B)); (3) provisions for RACM (section 189(a)(1)(C)); and (4) quantitative milestones demonstrating RFP toward attainment by the applicable attainment date (section 189(c)).

The permit requirements of subpart 4, as contained in section 189(a)(1)(A), refer to and apply the subpart 1 permit provisions requirements of sections 172 and 173 to  $PM_{10}$ , without adding to them. Consequently, EPA believes that section 189(a)(1)(A) does not itself impose for redesignation purposes any additional requirements for moderate areas beyond those

contained in subpart 1.2 In any event, in the context of redesignation, EPA has long relied on the interpretation that a fully approved nonattainment new source review program is not considered an applicable requirement for redesignation, provided the area can maintain the standard with a PSD program after redesignation. A detailed rationale for this view is described in a memorandum from Mary Nichols, Assistant Administrator for Air and Radiation, dated October 14, 1994, entitled, "Part D New Source Review Requirements for Areas Requesting Redesignation to Attainment." See also rulemakings for Detroit, Michigan (60 FR 12467-12468, March 7, 1995); Cleveland-Akron-Lorain, Ohio (61 FR 20458, 20469-20470, May 7, 1996); Louisville, Kentucky (66 FR 53665, October 23, 2001); and Grand Rapids, Michigan (61 FR 31834-31837, June 21, 1996).

With respect to the specific attainment planning requirements under subpart 4, when EPA evaluates a redesignation request under subpart 1 and/or 4, any area that is attaining the  $PM_{2.5}$  standard is viewed as having satisfied the attainment planning requirements for these subparts. For redesignations, EPA has for many years interpreted attainment-linked

 $<sup>^2</sup>$  The potential effect of section 189(e) on section 189(a)(1)(A) for purposes of evaluating this redesignation is discussed below.

<sup>&</sup>lt;sup>3</sup>I.e., attainment demonstration, RFP, RACM, milestone requirements, contingency measures.

requirements as not applicable for areas attaining the standard.

In the General Preamble, EPA stated that:

The requirements for RFP will not apply in evaluating a request for redesignation to attainment since, at a minimum, the air quality data for the area must show that the area has already attained. Showing that the State will make RFP towards attainment will, therefore, have no meaning at that point.

"General Preamble for the Interpretation of Title I of the CAA Amendments of 1990"; (57 FR 13498, 13564, April 16, 1992).

The General Preamble also explained that

[t]he section 172(c)(9) requirements are directed at ensuring RFP and attainment by the applicable date.

These requirements no longer apply when an area has attained the standard and is eligible for redesignation. Furthermore, section 175A for maintenance plans . . . provides specific requirements for contingency measures that effectively supersede the requirements of section 172(c)(9) for these areas.

EPA similarly stated in its September 4, 1992, memorandum entitled "Procedures for Processing Requests to Redesignate

Areas to Attainment" (Calcagni memorandum) that, "[t]he requirements for reasonable further progress and other measures needed for attainment will not apply for redesignations because they only have meaning for areas not attaining the standard."

Elsewhere in this action, EPA proposes to determine that the area has attained the 1997 annual  $PM_{2.5}$  standard. Under its longstanding interpretation, EPA is proposing to determine here that the area meets the attainment-related planning requirements of subparts 1 and 4.

Thus, as explained more fully below, EPA is proposing to conclude that the requirements to submit an attainment demonstration under 189(a)(1)(B), a RACM determination under sections 172(c)(1) and 189(a)(1)(c), a RFP demonstration under section 189(c)(1), and contingency measure requirements under section 172(c)(9) are satisfied for purposes of evaluating the redesignation request.

CAA section 189(e) specifically provides that control requirements for major stationary sources of direct  $PM_{10}$  shall also apply to  $PM_{10}$  precursors from those sources, except where EPA determines that major stationary sources of such precursors

"do not contribute significantly to  $PM_{10}$  levels which exceed the standard in the area."

For a number of reasons, EPA believes that this proposed redesignation of the Cincinnati-Hamilton area is consistent with the Court's decision on this aspect of subpart 4. First, while the Court, citing section 189(e), stated that "for a PM<sub>10</sub> area governed by subpart 4, a precursor is 'presumptively regulated,'" the Court expressly declined to decide the specific challenge to EPA's 1997 PM<sub>2.5</sub> implementation rule provisions regarding ammonia and VOCs as precursors. The Court had no occasion to reach whether and how it was substantively necessary to regulate any specific precursor in a particular PM<sub>2.5</sub> nonattainment area, and did not address what might be necessary for purposes of acting upon a redesignation request.

The Cincinnati-Hamilton area has attained the standard without any specific additional controls of VOCs and ammonia emissions from any sources in the area.

Precursors in subpart 4 are specifically regulated under the provisions of section 189(e), which requires, with important exceptions, control requirements for major stationary sources of  $PM_{10}$  precursors.<sup>4</sup> As explained below, we do not believe that any

 $<sup>^{4}</sup>$  Under either subpart 1 or subpart 4, for purposes of demonstrating

additional controls of ammonia and VOCs are required in the context of this redesignation.

In the General Preamble, EPA discusses its approach to implementing section 189(e). See 57 FR 13538-13542. With regard to precursor regulation under section 189(e), the General Preamble explicitly stated that control of VOCs under other CAA requirements may suffice to relieve a state from the need to adopt precursor controls under section 189(e) (57 FR 13542). EPA proposes to determine that Indiana has met the provisions of section 189(e) with respect to ammonia and VOCs as precursors. This proposed supplemental determination is based on our findings that: (1) the Cincinnati-Hamilton area contains no major stationary sources of ammonia, and (2) existing major stationary sources of VOCs are adequately controlled under other provisions of the CAA regulating the ozone NAAQS. 5 In the alternative, EPA proposes to determine that, under the express exception provisions of section 189(e), and in the context of the redesignation of the area, which is attaining the 1997 annual  $PM_{2.5}$  standard, at present ammonia and VOCs precursors from

attainment as expeditiously as practicable, a state is required to evaluate all economically and technologically feasible control measures for direct PM emissions and precursor emissions, and adopt those measures that are deemed reasonably available.

<sup>&</sup>lt;sup>5</sup>The Cincinnati-Hamilton area has reduced VOC emissions through the implementation of various SIP approved VOC control programs and various onroad and non-road motor vehicle control programs.

major stationary sources do not cause  $PM_{2.5}$  levels to exceed the 1997  $PM_{2.5}$  standard in the Cincinnati-Hamilton area. See 57 FR 13539-42.

EPA notes that its 1997 PM<sub>2.5</sub> implementation rule provisions in 40 CFR 51.1002 were not directed at evaluation of  $PM_{2.5}$ precursors in the context of redesignation, but at SIP plans and control measures required to bring a nonattainment area into attainment of the 1997 annual  $PM_{2.5}$  NAAQS. By contrast, redesignation to attainment primarily requires the area to have already attained due to permanent and enforceable emission reductions, and to demonstrate that controls in place can continue to maintain the standard. Thus, even if we regard the Court's January 4, 2013, decision as calling for "presumptive" regulation" of ammonia and VOCs for  $PM_{2.5}$  under the attainment planning provisions of subpart 4, those provisions do not require additional controls of these precursors for an area that already qualifies for redesignation. Nor does EPA believe that requiring Indiana to address precursors differently than it has already would result in a different redesignation outcome.

Although, as EPA has emphasized, its consideration here of precursor requirements under subpart 4 is in the context of a redesignation to attainment, EPA's existing interpretation of

subpart 4 requirements with respect to precursors in attainment plans for  $PM_{10}$  contemplates that states may develop attainment plans that regulate only those precursors that are necessary for purposes of attainment in the area in question, i.e., states may determine that only certain precursors need be regulated for attainment and control purposes. 6 Courts have upheld this approach to the requirements of subpart 4 for  $PM_{10}$ . EPA believes that application of this approach to PM2.5 precursors under subpart 4 is reasonable. Because the Cincinnati-Hamilton area has already attained the 1997 annual PM<sub>2.5</sub> NAAQS with its current approach to regulation of PM2.5 precursors, EPA believes that, in the context of this redesignation, there is no need to revisit the attainment control strategy with respect to the treatment of precursors. Even if the Court's decision is construed to impose an obligation to consider additional precursors under subpart 4 in evaluating this redesignation request, it would not affect EPA's approval here of Indiana's request for redesignation of the Cincinnati-Hamilton area.

 $<sup>^6</sup>See,\ e.g.,\ \text{``Approval}$  and Promulgation of Implementation Plans for California – San Joaquin Valley PM-10 Nonattainment Area; Serious Area Plan for Nonattainment of the 24-Hour and Annual PM-10 Standards," 69 FR 30006 (May 26, 2004) (approving a PM10 attainment plan that impose controls on direct PM10 and NO<sub>X</sub> emissions and did not impose controls on SO<sub>2</sub>, VOC, or ammonia emissions).

 $<sup>^{7}</sup>$ See, e.g., Assoc. of Irritated Residents v. EPA et al., 423 F.3d 989 (9th Cir. 2005).

Moreover, the state has shown, and EPA is proposing to determine, that attainment in this area is due to permanent and enforceable emissions reductions on all precursors necessary to provide for continued attainment. It follows that no further control of additional precursors is necessary. Accordingly, EPA does not view the January 4, 2013, Court decision as precluding redesignation of the Cincinnati-Hamilton area to attainment for the 1997 PM<sub>2.5</sub> NAAQS at this time.

EPA concludes that the area has met all applicable requirements for purposes of redesignation in accordance with section 107(d)(3)(E)(ii) and (v).

b. Indiana Has a Fully Approved Applicable SIP under Section 110(k) of the CAA

Upon final approval of Indiana's comprehensive VOCs and ammonia emissions inventories, EPA will have fully approved the Indiana SIP for the Cincinnati-Hamilton area under section 110(k) of the CAA for all requirements applicable for purposes of redesignation. EPA may rely on prior SIP approvals in approving a redesignation request (See page 3 of the Calcagni memorandum; Southwestern Pennsylvania Growth Alliance v.

Browner, 144 F.3d 984, 989-990 (6th Cir. 1998); Wall v. EPA, 265 F.3d 426 (6th Cir. 2001)) plus any additional measures it may

approve in conjunction with a redesignation action. See 68 FR 25413, 25426 (May 12, 2003). Since the passage of the CAA of 1970, Indiana has adopted and submitted, and EPA has fully approved, provisions addressing various required SIP elements under particulate matter standards. In this action, EPA is approving Indiana's VOCs and ammonia comprehensive emissions inventories for the Cincinnati-Hamilton area as meeting the requirement of section 172(c)(3) of the CAA.

3. The Improvement in Air Quality Is Due to Permanent and
Enforceable Reductions in Emissions Resulting from
Implementation of the SIPs and Applicable Federal Air Pollution
Control Regulations and Other Permanent and Enforceable
Reductions (Section 107(d)(3)(E)(iii))

EPA believes that Indiana has demonstrated that the observed air quality improvement in the Cincinnati-Hamilton area is due to permanent and enforceable reductions in emissions resulting from implementation of the SIPs, Federal measures, and other state-adopted measures.

In making this demonstration, Indiana has calculated the change in emissions between 2005, one of the years used to designate the area as nonattainment, and 2008, one of the years the Cincinnati-Hamilton area monitored attainment. The

reduction in emissions and the corresponding improvement in air quality over this time period can be attributed to a number of regulatory control measures that the Cincinnati-Hamilton area and contributing areas have implemented, as discussed below.

Additional permanent and enforceable measures and shutdowns after 2008 have also been promulgated and are included below.

- a. Permanent and Enforceable Controls Implemented

  The following is a discussion of permanent and enforceable

  measures that have been implemented in the area:
  - i. Federal Emission Control Measures

Reductions in direct emissions of  $PM_{2.5}$  and in emissions of  $PM_{2.5}$  precursors have occurred statewide and in upwind areas as a result of Federal emission control measures, with additional emission reductions expected to occur in the future. Federal emission control measures include the following:

Tier 2 Emission Standards for Vehicles and Gasoline Sulfur Standards. EPA finalized this Federal rule in February 2000. These emission control requirements result in lower  $NO_X$  and  $SO_2$  emissions from new cars and light duty trucks, including sport utility vehicles. Emission standards established under EPA's rules became effective between 2004 and 2009. EPA has estimated that, emissions of  $NO_X$  from new vehicles have decreased by the

following percentages: passenger cars (light duty vehicles) - 77 percent; light duty trucks, minivans, and sports utility vehicles - 86 percent; and, larger sports utility vehicles, vans, and heavier trucks - 69 to 95 percent. EPA expects fleetwide average emissions to decline by similar percentages as new vehicles replace older vehicles. The Tier 2 standards also reduced the sulfur content of gasoline by up to 90 percent.

VOCs emissions reductions will be approximately 12 percent for passenger cars; 18 percent for smaller SUVs, light trucks, and minivans; and 15 percent for larger SUVs, vans, and heavier trucks.

Heavy-Duty Diesel Engine Rule. EPA issued this rule in July 2000. This rule, which was phased in between 2004 and 2007, includes standards limiting the sulfur content of diesel fuel. This rule is estimated to reduce  $NO_X$  emissions from diesel trucks and buses by approximately 40 percent. The level of sulfur in highway diesel fuel is also estimated to have dropped by 97 percent by mid-2006 due to this rule.

Non-road Diesel Rule. In May 2004, EPA promulgated a new rule for large non-road diesel engines, such as those used in construction, agriculture, and mining equipment, to be phased in between 2008 and 2014. Prior to 2006, non-road diesel fuel

averaged approximately 3,000 parts per million (ppm) sulfur. This rule limited non-road diesel sulfur content to 15 ppm by 2010. It is estimated that compliance with this rule has cut emissions from non-road diesel engines by more than 90%. This rule achieved some emission reductions by 2008 and was fully implemented by 2010. The reduction in fuel sulfur content also yielded an immediate reduction in sulfate particle emissions from all diesel vehicles.

## ii. Control Measures in Contributing Areas

Given the significance of sulfates and nitrates in the Cincinnati-Hamilton area, the area's air quality is strongly affected by regulated emissions from power plants.

 $NO_X$  SIP Call. On October 27, 1998 (63 FR 57356), EPA issued a  $NO_X$  SIP Call requiring the District of Columbia and 22 states to reduce emissions of  $NO_X$ . Affected states were required to comply with Phase I of the SIP Call beginning in 2004, and Phase II beginning in 2007. Emission reductions resulting from regulations developed in response to the  $NO_X$  SIP Call are permanent and enforceable.

CAIR and CSAPR. EPA proposed CAIR on January 30, 2004, at 69 FR 4566, promulgated CAIR on May 12, 2005, at 70 FR 25162, and promulgated associated Federal Implementation Plans (FIPs)

on April 28, 2006, at 71 FR 25328, in order to reduce  $SO_2$  and  $NO_X$ emissions and improve air quality in many areas across the Eastern United States. However, on July 11, 2008, the United States Court of Appeals for the District of Columbia Circuit (DC Circuit or Court) issued its decision to vacate and remand both CAIR and the associated CAIR FIPs in their entirety (North Carolina v. EPA, 531 F.3d 836 (DC Cir. 2008)). EPA petitioned for a rehearing, and the Court issued an order remanding CAIR and the CAIR FIPs to EPA without vacatur (North Carolina v. EPA, 550 F.3d 1176 (DC Cir. 2008)). The Court, thereby, left CAIR in place in order to "temporarily preserve the environmental values covered by CAIR" until EPA replaced it with a rule consistent with the Court's opinion (id. at 1178). The Court directed EPA to "remedy CAIR's flaws" consistent with the July 11, 2008, opinion, but declined to impose a schedule on EPA for completing this action (id).

On August 8, 2011 (76 FR 48208), acting on the D.C. Circuit's remand, EPA promulgated CSAPR to replace CAIR and, thus, to address the interstate transport of emissions contributing to nonattainment and interfering with maintenance of the two air quality standards covered by CAIR as well as the  $2006\ PM_{2.5}\ NAAQS$ . CSAPR requires substantial reductions of  $SO_2$ 

and  $NO_X$  emissions from electric generating units (EGUs) in 28 states in the eastern United States. As a general matter, because CSAPR is CAIR's replacement, emissions reductions associated with CAIR will for most areas be made permanent and enforceable through implementation of CSAPR.

Numerous parties filed petitions for review of CSAPR in the D.C. Circuit, and on August 21, 2012, the court issued its ruling, vacating and remanding CSAPR to EPA and ordering continued implementation of CAIR. EME Homer City Generation, L.P. v. EPA, 696 F.3d 7, 38 (D.C. Cir. 2012). The D.C. Circuit's vacatur of CSAPR was reversed by the United States Supreme Court on April 29, 2014, and the case was remanded to the D.C. Circuit to resolve remaining issues in accordance with the high court's ruling. EPA v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014).

On remand, the D.C. Circuit affirmed CSAPR in most respects, but invalidated without vacating some of the CSAPR budgets as to a number of states. *EME Homer City Generation*, *L.P.* v. *EPA*, 795 F.3d 118 (D.C. Cir. 2015) (*EME Homer City II*). The litigation over CSAPR ultimately delayed implementation of that rule for three years, from January 1, 2012, when CSAPR's cap-and-trade programs were originally scheduled to replace the

CAIR cap-and-trade programs, to January 1, 2015. CSAPR's Phase 2 budgets were originally promulgated to begin on January 1, 2014, and began January 1, 2017. As part of the remand, the D.C. Circuit found the Ohio 2014  $NO_X$  budget was invalid, stating that based on EPA's own data, Ohio made no contribution to downwind states' nonattainment. On September 7, 2016, EPA promulgated the CSAPR Update Rule (81 FR 74504) which established permanent and enforceable reduction through revised  $NO_X$  ozone season budgets for Indiana.

Because the emission reduction requirements of CAIR were enforceable through the 2011 control period, and because CSAPR has been promulgated to address the requirements previously addressed by CAIR and will achieve similar or greater reductions once finalized, EPA has determined that the EGU emission reductions that helped lead to attainment in the Cincinnati-Hamilton area can now be considered permanent and enforceable and that the requirement of CAA section 107(d)(3)(E)(iii) has been met.

#### iii. Consent decrees and Permanent Shutdowns

As a result of a settlement with EPA to resolve violations of the CAA's NSR requirements, American Electrical Power (AEP) permanently retired its Tanners Creek Generating Station (i.e.,

all four coal-fired EGUs) located in Lawrenceburg Township,
Dearborn County on June 1, 2015.

#### b. Emission Reductions

The 2005 emissions inventory for  $NO_X$ , direct  $PM_{2.5}$ , and  $SO_2$  has been codified at 40 CFR 52.776. The 2005 inventory represents a year the Cincinnati-Hamilton area was not attaining the standard. The emissions inventory for 2008, one of the years the Cincinnati-Hamilton area monitored attainment of the standard, was grown from the 2005 emissions inventory to represent a base year for maintenance purposes.

Point source emissions information was compiled from the Indiana Department of Environmental Management (IDEM) annual emissions statement database and from EPA's Clean Air Market's acid rain database. These emissions reflect Indiana's  $NO_X$  emission budgets resulting from EPA's  $NO_X$  SIP call. The 2008 emissions from EGUs reflect Indiana's emission caps under CAIR.

Area source emissions for the Cincinnati-Hamilton area for 2005 were taken from periodic emissions inventories. These 2005 area source emission estimates were extrapolated to 2008. Source growth factors were supplied by the Lake Michigan Air

<sup>&</sup>lt;sup>8</sup> Periodic emission inventories are derived by states every three years and reported to EPA. These periodic emission inventories are required by the Federal Consolidated Emissions Reporting Rule, codified at 40 CFR part 51, subpart A. EPA revised these and other emission reporting requirements in a final rule published on December 17, 2008, at 73 FR 76539.

Directors Consortium (LADCO). These growth factors were based on the U.S Department of Commerce Bureau of Economic Analysis (BEA) growth factors, with some updated local information.

Non-road mobile source emissions were extrapolated from non-road mobile source emissions reported in EPA's 2005 National Emissions Inventory (NEI). Contractors were employed by LADCO to estimate emissions for commercial marine vessels and railroads.

On-road mobile source emissions were calculated using EPA's mobile source emission factor model, MOVES2010, and data extracted from the region's travel-demand model. These emissions were then interpolated as needed to determine the 2008 base year values.

All emissions estimates discussed below were documented in the submittals and appendices to Indiana's redesignation request submittal of August 19, 2016. For these data and additional emissions inventory data, the reader is referred to EPA's digital docket for this rule, http://www.regulations.gov, for docket number EPA-R05-OAR-2016-0513, which includes a digital copy of Indiana's submittal.

Emissions data in tons per year (tpy) for the Cincinnati-Hamilton area are shown in Tables 2, 3, and 4 below.

Table 2. Comparison of 2005 emissions from the nonattainment year and 2008 emissions for an attainment year for  $\rm NO_{x}$  in the Cincinnati-Hamilton area (tpy).

Sector	2005 2008		Net Change (2008-2005)	
On-road	71,919.89	64,471.22	-7,448.67	
Non-road	21,770.17	19,614.87	-2,155.3	
Point	66,302.14	56,644.39	-9 <b>,</b> 657.75	
Area	7,810.74	7,975.67	164.93	
Total	167,802.94	148,706.15	-19,096.79	

Table 3. Comparison of 2005 emissions from the nonattainment year and 2008 emissions for an attainment year for  $SO_2$  in the Cincinnati-Hamilton area (tpy).

			Net Change
Sector	2005	2008	(2008-2005)
On-road	392.00	277.59	-114.41
Non-road	2,149.74	1399.69	-750.05
Point	233,927.65	111,818.09	-122,109.56
Area	3,494.39	3,520.77	26.38
Total	239,963.78	117,016.14	-122,947.64

Table 4. Comparison of 2005 emissions from the nonattainment year and 2008 emissions for an attainment year for direct  $PM_{2.5}$  in the Cincinnati-Hamilton area (tpy).

Sector	or 2005 2008		Net Change (2008-2005)
On-road	2,810.30	2,679.85	-130.45
Non-road	1,400.55	1,268.32	-132.23
Point	3,415.69	3,091.67	-324.02
Area	1,828.85	1,864.80	35.95
Total	9,455.39	8,904.64	-550.75

Tables 2, 3, and 4 show reductions in  $NO_X$ ,  $SO_2$ , and direct  $PM_{2.5}$  emissions for the Cincinnati-Hamilton area by 19,096.79 tpy for  $NO_X$ , 122,947.64 tpy for  $SO_2$ , and 550.76 tpy for direct  $PM_{2.5}$  between 2005 (nonattainment year) and 2008 (attainment year).

4. Indiana Has a Fully Approved Maintenance Plan Pursuant to Section 175A of the CAA (Section 107(d)(3)(E)(iv))

EPA has fully approved an applicable maintenance plan that meets the requirements of section 175(a) on December 23, 2011.

See 76 FR 80253. In conjunction with Indiana's request to redesignate the Cincinnati-Hamilton nonattainment area to attainment, Indiana has submitted an updated attainment inventory of the maintenance plan to reflect the provisions of subpart 4 (title I, part D) of the CAA, and EPA is updating the maintenance plan to 2027.

a. What Is Required in a Maintenance Plan?

Section 175A of the CAA sets forth the required elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. Under section 175A, the plan must demonstrate continued attainment of the applicable NAAQS for at least ten years after EPA approves a redesignation to attainment. Eight years after redesignation, the state must submit a revised maintenance plan which demonstrates that attainment will continue to be maintained for ten years following the initial ten-year maintenance period. To address the possibility of future NAAQS violations, the maintenance plan must contain contingency measures, which it does, with a

schedule for implementation as EPA deems necessary to assure prompt correction of any future  $PM_{2.5}$  violations.

The Calcagni memorandum provides additional guidance on the content of a maintenance plan. The memorandum states that a maintenance plan should address the following items: the attainment emissions inventory, a maintenance demonstration showing maintenance for the ten years of the maintenance period, a commitment to maintain the existing monitoring network, factors and procedures to be used for verification of continued attainment of the NAAQS, and a contingency plan to prevent or correct future violations of the NAAQS.

Section 175A requires a state seeking redesignation to attainment to submit a SIP revision to provide for the maintenance of the NAAQS in the area "for at least 10 years after the redesignation." EPA has interpreted this as a showing of maintenance "for a period of ten years following redesignation." Calcagni memorandum, p. 9. Where the emissions inventory method of showing maintenance is used, its purpose is to show that emissions during the maintenance period will not increase over the attainment year inventory. Calcagni memorandum, pp. 9-10.

As discussed in the section below, the state's maintenance

plan submission documents that the area's emissions inventories should remain below the attainment year inventories through 2021. In addition, for the reasons set forth below, EPA believes that the state's submission, in conjunction with additional supporting information, further demonstrates that the area should continue to maintain the 1997 annual PM2.5 NAAQS at least through 2027. Thus, any EPA action to finalize its proposed approval of the redesignation request and maintenance plans in 2017, will be based on a showing, in accordance with section 175A, that the state's maintenance plan provides for maintenance for at least ten years after redesignation.

## b. Attainment Inventory

Indiana developed an emissions inventory for  $NO_X$ , primary  $PM_{2.5}$ , and  $SO_2$  for 2008, one of the years in the period during which the Cincinnati-Hamilton area monitored attainment of the 1997 annual  $PM_{2.5}$  standard, as described previously. The attainment level of emissions is summarized in Tables 2, 3, and 4, above. Indiana also included emissions inventories for VOCs and ammonia from 2007, in accordance with the provisions of Subpart 4 (title I, part D) of the CAA. These emissions are summarized in Table 6, in discussion of the maintenance plan below.

## c. Demonstration of Maintenance

Indiana has a fully approved maintenance plan that meets the requirements of section 175(A). See 76 FR 80253. Along with the redesignation request, Indiana submitted an updated attainment inventory to reflect the provision of subpart 4. Indiana's plan demonstrates maintenance of the 1997 annual  $PM_{2.5}$  standard through 2021 by showing that current and future emissions of  $NO_X$ , directly emitted  $PM_{2.5}$ , and  $SO_2$  in the area remain at or below attainment year emission levels.

Indiana's plan demonstrates maintenance of the 1997 annual  $PM_{2.5}$  NAAQS through 2021 by showing that current and future emissions of  $NO_X$ , directly emitted  $PM_{2.5}$ , and  $SO_2$  for the area remain at or below attainment year emission levels.

The rate of decline in emissions of  $PM_{2.5}$ ,  $NO_x$ , and  $SO_2$  from the attainment year 2008 through 2021 indicates that the emissions inventory levels not only significantly declined between 2008 and 2021, but also will continue to decline through 2027 and beyond.  $PM_{2.5}$  emissions in the nonattainment area are projected to decrease by 702.01 tpy in 2021.  $NO_X$  emissions in the nonattainment area are projected to decrease by 69,887.02 tpy in 2021.  $SO_2$  emissions in the nonattainment area are projected to decrease by 69,887.02

decline are conservative as they do not include reductions resulting from the shutdown of the four units at the Tanner's Creek Generating Station, and are consistent with monitored and projected air quality trends; and emissions reductions achieved through emissions controls and regulations that will remain in place beyond 2027, and through fleet turnover that will continue beyond 2027, among other factors. EPA is proposing that the previously approved maintenance plan is adequate in achieving maintenance of the PM<sub>2.5</sub> standard to 2027 and beyond.

A maintenance demonstration need not be based on modeling. See Wall v. EPA, 265 F.3d 426 (6th Cir. 2001), Sierra Club v. EPA, 375 F. 3d 537 (7th Cir. 2004). See also 66 FR 53094, 53099-53100 (October 19, 2001), 68 FR 25413, 25430-25432 (May 12, 2003). Indiana uses emissions inventory projections for the years 2008 and 2021 to demonstrate maintenance for the entire Cincinnati-Hamilton area. The projected emissions were estimated by Indiana, with assistance from LADCO, who used the MOVES2010 model for mobile source projections. The 2021 maintenance year emission estimates were based on emissions estimates from the 2018 LADCO modeling. Table 5 shows the 2008 attainment base year emission estimates and the 2021 emission projections for the Cincinnati-Hamilton area, taken from

Indiana's August 19, 2016, submission.

Table 5. Comparison of 2008 and 2021  $NO_X$ , Direct  $PM_{2.5}$ , and  $SO_2$  Emission Totals (tpy) for the Cincinnati-Hamilton Area.

	$SO_2$	$NO_X$	PM <sub>2.5</sub>
2008 (baseline)	117,016.14	148,706.15	8,904.64
2021 (maintenance)	88,510.27	78,819.13	8,202.63
Projected Decrease	28,505.87	69 <b>,</b> 887.02	702.01
(2021-2008)	24% decrease	47% decrease	8% decrease

Table 5 shows that, for the period between 2008 and the maintenance projection for 2021, the Cincinnati-Hamilton area will reduce  $NO_X$  emissions by 69,887.02 tpy; direct  $PM_{2.5}$  emissions by 702.01 tpy; and  $SO_2$  emissions by 28,505.87 tpy. The 2021 projected emissions levels are significantly below attainment year inventory levels, and, based on the rate of decline, it is highly improbable that any increases in these levels will occur in 2027 and beyond. Thus, the emissions inventories set forth in Table 5 show that the area will continue to maintain the 1997 annual  $PM_{2.5}$  standard during the maintenance period and at least through 2027.

As Table 1 demonstrates, monitored  $PM_{2.5}$  design value concentrations in the Cincinnati-Hamilton area are well below the NAAQS in the years beyond 2008, the attainment year for the area. Further, those values are trending downward as time progresses. Based on the future projections of emissions in 2021 showing significant emissions reductions in direct  $PM_{2.5}$ ,

 $NO_x$ , and  $SO_2$ , it is very unlikely that monitored  $PM_{2.5}$  values in 2027 and beyond will show violations of the NAAQS.

Additionally, the 2013-2015 design values, which range from 9.5 to 11.2  $\mu g/m^3$ , provide a sufficient margin in the unlikely event emissions rise slightly in the future. These emission reductions are further sustained with the closing of the Tanner's Creek Generating Station in Lawrenceburg Township, Dearborn County, IN on June 1, 2015.

Maintenance Plan Evaluation of Ammonia and VOCs

Due to the remand of EPA's implementation rule, EPA in this proposal is evaluating the impact of maintenance plan requirements under sections 175A and 107(d)(3)(E)(iv) as they pertain to VOCs and ammonia as  $PM_{2.5}$  precursors. To begin with, EPA notes that the area has attained the 1997 annual  $PM_{2.5}$  standard and that the state has shown that attainment of the standard is due to permanent and enforceable emission reductions.

EPA proposes to confirm that the state's maintenance plan shows continued maintenance of the standard by tracking the levels of the precursors whose control brought about attainment of the 1997  $PM_{2.5}$  standard in the Cincinnati-Hamilton area. EPA, therefore, believes that the only additional consideration

related to the maintenance plan requirements that results from the Court's January 4, 2013, decision is that of assessing the potential role of VOCs and ammonia in demonstrating continued maintenance in this area. As explained below, based upon documentation provided by the state and supporting information, EPA believes that the maintenance plan for the Cincinnati-Hamilton area need not include any additional emission reductions of VOCs or ammonia in order to provide for continued maintenance of the standard.

First, as noted above in EPA's discussion of section 189(e), VOCs emission levels in this area have historically been well-controlled under SIP requirements related to ozone and other pollutants. Second, total ammonia emissions throughout the Cincinnati-Hamilton area are very low, estimated to be less than 3,200 tpy. See Table 6 below. This amount of ammonia emissions appears especially small in comparison to the total amounts of SO<sub>2</sub>, NO<sub>X</sub>, and even direct PM<sub>2.5</sub> emissions from sources in the area. Third, as described below, available information shows that no precursor, including VOCs and ammonia, is expected to increase over the maintenance period so as to interfere with or undermine the state's maintenance demonstration.

Indiana's maintenance plan shows that emissions of direct  $PM_{2.5}$ ,  $SO_2$ , and  $NO_X$  are projected to decrease by 702.01 tpy, 28,505.87 tpy, and 69,887.022 tpy, respectively, over the maintenance period. See Table 5 above. In addition, emissions inventories used in the regulatory impact analysis (RIA) for the  $2012 \text{ PM}_{2.5}$  NAAQS show that VOCs and ammonia emissions are projected to decrease by 16,716 tpy and 119 tpy in the Cincinnati-Hamilton area, respectively between 2007 and 2020. See Table 6 below. While the RIA emissions inventories are only projected out to 2020, there is no reason to believe that this downward trend would not continue through 2026. Given that the Cincinnati-Hamilton area is already attaining the 1997 annual  $PM_{2.5}$  NAAQS even with the current level of emissions from sources in the area, the downward trend of emissions inventories would be consistent with continued attainment. Indeed, projected emissions reductions for the precursors that the state is addressing for purposes of the 1997 PM2.5 NAAQS indicate that the area should continue to attain the NAAQS following the precursor control strategy that the state has already elected to pursue. Additionally, the projected values factored in the continuing operation of the Tanners Creek Generating Station. Even if VOCs and ammonia emissions were to increase unexpectedly between 2020

and 2027, the overall emissions reductions projected in direct  $PM_{2.5}$ ,  $SO_2$ , and  $NO_X$  would be sufficient to offset any increases. For these reasons, EPA believes that local emissions of all of the potential  $PM_{2.5}$  precursors will not increase to the extent that they will cause monitored  $PM_{2.5}$  levels to violate the 1997  $PM_{2.5}$  standard during the maintenance period.

Table 6. Comparison of 2007 and 2020 VOC and Ammonia Emission Totals by Source Sector (tpy) for the Cincinnati-Hamilton Area

	voc			Ammonia		
Sector	2007	2020	Net Change 2020-2007	2007	2020	Net Change 2020-2007
fires	224	224	0	16	16	0
nonpoint	24,149	24,080	-69	2,158	2,223	65
Non-road	9,294	5,228	-4,066	13	15	2
On-road	20,317	8,041	-12,275	890	481	-409
point	5 <b>,</b> 138	4,831	-306	109	332	222
Total	59,121	42,404	-16,716	3,186	3,067	-119

In addition, available air quality modeling analyses show continued maintenance of the standard during the maintenance period. The current annual design values for the area range from 9.5 to 11.2  $\mu$ g/m³ (based on 2013-2015 air quality data), which are well below the 1997 annual PM<sub>2.5</sub> NAAQS of 15  $\mu$ g/m³. Moreover, the modeling analysis conducted for the RIA for the 2012 PM<sub>2.5</sub> NAAQS indicates that the design values for this area

 $<sup>^9</sup>$  These emissions estimates were taken from the emissions inventories developed for the RIA for the 2012  $\rm PM_{2.5}$  NAAQS which can be found in the docket.

are expected to continue to decline through 2020. In the RIA analysis, the highest 2020 modeled design value for the Cincinnati-Hamilton area is  $10.5~\mu g/m^3$ . Given that precursor emissions are projected to decrease through 2027, it is reasonable to conclude that monitored PM<sub>2.5</sub> levels in this area will also continue to decrease through 2027.

Thus, EPA believes that there is ample justification to conclude that the Cincinnati-Hamilton area should be redesignated, even taking into consideration the emissions of other precursors potentially relevant to PM<sub>2.5</sub>. After consideration of the D.C. Circuit's January 4, 2013, decision, and for the reasons set forth in this action, EPA proposes to approve the state's revised attainment inventory into the previously approved maintenance plan.

Based on the information summarized above, Indiana has adequately demonstrated maintenance of the 1997  $PM_{2.5}$  standard in this area for a period extending in excess of ten years from expected final action on Indiana's redesignation request. EPA finds that the currently approved plan will provide for maintenance.

## d. Monitoring Network

Ohio currently operates eight monitors for purposes of determining attainment with the annual PM2.5 standard and Kentucky currently operates one monitor for the area. Indiana operates no monitors for the Cincinnati-Hamilton area since only a small portion of the nonattainment area is in the state. EPA has determined that the monitors maintained by both Ohio and Kentucky constitute an adequate monitoring network.

#### e. Verification of Continued Attainment

Ohio and Kentucky remain obligated to continue to quality-assure monitoring data and enter all data into the AQS in accordance with Federal guidelines in accordance with 40 CFR 58. f. Contingency Plan

The contingency plan provisions are designed to promptly correct or prevent a violation of the NAAQS that might occur after redesignation of an area to attainment. Section 175A of the CAA requires that a maintenance plan include such contingency measures as EPA deems necessary to ensure that the state will promptly correct a violation of the NAAQS that occurs after redesignation. The maintenance plan should identify the contingency measures to be adopted, a schedule and procedure for adoption and implementation of the contingency measures, and a time limit for action by the state. The state should also

identify specific indicators to be used to determine when the contingency measures need to be adopted and implemented. The maintenance plan must include a requirement that the state will implement all pollution control measures that were contained in the SIP before redesignation of the area to attainment. See section 175A(d) of the CAA. As described above in section III.4, Indiana's previously approved maintenance plan includes all necessary contingency measures required under section 175A(d). See 76 FR 80253.

EPA believes that Indiana's approved contingency measures, as well as the commitment to continue implementing any necessary SIP requirements, satisfy the pertinent requirements of section 175A(d).

For all of the reasons set forth above, EPA determines that the approved maintenance plan is still applicable and meets all the contingency plan requirements of CAA section 175A.

5. Motor Vehicle Emissions Budget (MVEBs) for the Mobile Source Contribution to  $PM_{2.5}$  and  $NO_X$ 

Under the CAA, states are required to submit, at various times, control strategy SIP revisions and maintenance plans for  $PM_{2.5}$  nonattainment areas and for areas seeking redesignation to attainment of the  $PM_{2.5}$  standard. These emission control

strategy SIP revisions (e.g., RFP and attainment demonstration SIP revisions) and maintenance plans create MVEBs based on on-road mobile source emissions for criteria pollutants and/or their precursors to address pollution from on-road transportation sources. The MVEBs are the portions of the total allowable emissions that are allocated to highway and transit vehicle use that, together with emissions from other sources in the area, will provide for attainment, RFP, or maintenance, as applicable.

Under 40 CFR part 93, a MVEB for an area seeking a redesignation to attainment is established for the last year of the maintenance plan and could also be established for an interim year or years. The MVEB serves as a ceiling on emissions from an area's planned transportation system. The MVEB concept is further explained in the preamble to the November 24, 1993, transportation conformity rule (58 FR 62188).

Under section 176(c) of the CAA, new transportation plans and transportation improvement programs (TIPs) must be evaluated to determine if they conform to the purpose of the area's SIP. Conformity to the SIP means that transportation activities will not cause new air quality violations, worsen existing air quality violations, or delay timely attainment of the NAAQS or

any required interim milestone. If a transportation plan or TIP does not conform, most new transportation projects that would expand the capacity of roadways cannot go forward. Regulations at 40 CFR part 93 set forth EPA policy, criteria, and procedures for demonstrating and assuring conformity of such transportation activities to a SIP.

The maintenance plans previously submitted by Indiana for the area contained PM<sub>2.5</sub> and NO<sub>x</sub> MVEBs for the area for the year 2021. Indiana calculated the MVEBs using MOVES2010. These approved budgets are used in future conformity determinations and regional emissions analyses prepared by the OKI, and will have to be based on the use of MOVES2010 or the most recent version of MOVES required to be used in transportation conformity determinations.<sup>10</sup> The state has determined the 2021 MVEBs for the combined Ohio and Indiana portions of the Cincinnati-Hamilton area to be 1,241.19 tpy for primary PM<sub>2.5</sub> and 21,747.71 tpy for NO<sub>x</sub>. The Ohio and Indiana portion of the area included "safety margins" as provided for in 40 CFR 93.124(a) (described below) of 112.84 tpy for primary PM<sub>2.5</sub> and 2,836.65 tpy for NO<sub>x</sub> in the 2021 MVEBs, respectively, to provide for on-

 $<sup>^{10}</sup>$  EPA described the circumstances under which an area would be required to use MOVES in transportation conformity determinations in its March 2, 2010, Federal Register notice officially releasing MOVES2010 for use in SIPs and transportation conformity determinations. (75 FR 9413)

road mobile source growth. Indiana did not provide emission budgets for  $SO_2$ , VOCs, and ammonia because it concluded, consistent with EPA's presumptions regarding these precursors, that emissions of these precursors from on-road motor vehicles are not significant contributors to the area's  $PM_{2.5}$  air quality problem.

EPA has previously approved budgets for 2021 including the added safety margins using the conformity rule's adequacy criteria found at 40 CFR 93.118(e)(4) and the conformity rule's requirements for safety margins found at 40 CFR 93.124(a). EPA has determined that the area can maintain attainment of the 1997 annual  $PM_{2.5}$  NAAQS for the relevant maintenance period and no changes to the plan have been made. See 76 FR 80253

## 6. 2005 Comprehensive Emissions Inventory

As discussed above, section 172(c)(3) of the CAA requires areas to submit a comprehensive emissions inventory including direct PM and all four precursors (SO<sub>2</sub>, NO<sub>X</sub>, VOCs, and ammonia). EPA approved the Indiana 2005 base year emissions inventory on December 23, 2011 (76 FR 80253). This previously approved base year emissions inventory detailed emissions of PM<sub>2.5</sub>, SO<sub>2</sub>, and NO<sub>X</sub> for 2005. Emissions inventories for VOCs and ammonia from 2007, taken from the RIA for the 2012 PM<sub>2.5</sub> NAAQS, have been added as

part of this submittal in accordance with the provisions of subpart 4 (title I, part D) of the CAA. Emissions contained in the submittal cover the general source categories of point sources, area sources, on-road mobile sources, and non-road mobile sources.

Based upon EPA's previous action and 2007 emissions inventory for VOCs and ammonia, the emissions inventory was complete and accurate, and met the requirement of CAA section 172(c)(3).

#### V. EPA's Proposed Actions

EPA is proposing to take several actions related to redesignation of the Cincinnati-Hamilton area to attainment for the 1997 annual  $PM_{2.5}$  NAAQS.

EPA has previously approved Indiana's  $PM_{2.5}$  maintenance plan and MVEBs for the Cincinnati-Hamilton area. EPA is proposing to determine that this plan and MVEBs are still applicable.

EPA has previously approved the 2005 primary  $PM_{2.5}$ ,  $NO_X$ , and  $SO_2$  base year emissions inventory. EPA is proposing to approve Indiana's updated emissions inventory which includes emissions inventories for VOCs and ammonia from 2007. EPA is proposing that Indiana meets the emissions inventory requirement under section 107(d)(3)(E)(iii).

EPA is proposing that Indiana meets the requirements for redesignation of the Cincinnati-Hamilton area to attainment of the 1997 annual  $PM_{2.5}$  NAAQS under section 107(d)(3)(E) of the CAA. EPA is thus proposing to grant Indiana's request to change the designation of its portion of the Cincinnati-Hamilton area from nonattainment to attainment for the 1997 annual  $PM_{2.5}$  NAAQS.

If finalized, EPA would determine that the previously approved maintenance plan is still applicable to the Cincinnati-Hamilton area for the 1997 annual  $PM_{2.5}$  NAAQS.

In addition, if finalized, according to the Fine

Particulate Matter National Ambient Air Quality Standards: State

Implementation Plan Requirements (81 FR 58009, August 24, 2016),

"for an area that is redesignated to attainment after the

effective date of this final rule, the 1997 primary annual PM2.5

NAAQS will be revoked in such an area on the effective date of

its redesignation to attainment for that NAAQS. After revocation

of the 1997 primary annual PM2.5 NAAQS in a given area, the

designation for that standard is no longer in effect."

## VI. Statutory and Executive Order Reviews

Under the CAA, redesignation of an area to attainment and the accompanying approval of a maintenance plan under section 107(d)(3)(E) are actions that affect the status of a

geographical area and do not impose any additional regulatory requirements on sources beyond those imposed by state law. A redesignation to attainment does not in and of itself create any new requirements, but rather results in the applicability of requirements contained in the CAA for areas that have been redesignated to attainment. Moreover, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and, if finalized, will not impose additional requirements beyond those imposed by state law. For that reason, these actions:

- Are not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Do not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);

- Are certified as not having a significant economic impact
   on a substantial number of small entities under the
   Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- Do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Do not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Are not economically significant regulatory actions based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Are not significant regulatory actions subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Are not subject to requirements of section 12(d) of the
   National Technology Transfer and Advancement Act of 1995
   (15 U.S.C. 272 note) because application of those
   requirements would be inconsistent with the Clean Air Act;
   and
- Do not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally

permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because redesignation is an action that affects the status of a geographical area and does not impose any new regulatory requirements on tribes, impact any existing sources of air pollution on tribal lands, nor impair the maintenance of ozone national ambient air quality standards in tribal lands.

# List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control,
Incorporation by reference, Intergovernmental relations,
Particulate matter.

40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

Dated: June 2, 2017.

Robert Kaplan, Acting Regional Administrator, Region 5.

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